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2015 Cooperative Agricultural Pest Survey (CAPS) Program

Exotic Nursery Pests

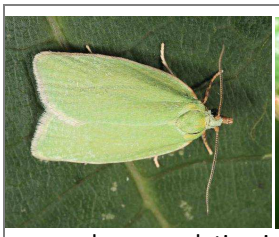
VARIEGATED GOLDEN TORTRIX *Archips xylosteanus*


Variegated golden tortrix is an insect pest of orchard, ornamental, and forest trees and crops. It is native to Africa, Asia and Europe.

The insect larvae disfigure host plants by feeding on leaves. It especially damages oak, maple, ash, elm, linden, dogwood, and fruit plants in the family Rosaceae such as apple and cherry. It is a leafroller that has a high risk of transport with nursery stock. This is just one of many forest pests that are moved to uninfested forests by humans moving firewood. Moths are of this family are strong fliers and the first instar larvae of some species are transported on silken threads by air currents and wind.

The survey will involve the use of *pheromone traps*. For more information: **http://pest.ceris.purdue.edu/pest.php?code=ITBUITA**

GREEN OAK TORTIX *Tortrix viridana*

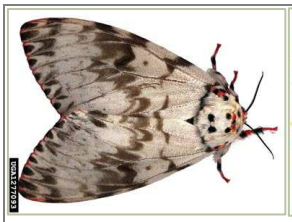



Green oak tortrix is an insect pest of oak and other species of trees and shrubs. It is native to Europe, Northern Africa, Iran and Israel. Oak trees are the primary host of this moth; secondary hosts include blueberry and nettle.

The green oak tortrix is also named the oak leafroller moth, as the larva pupate in a rolled up oak leaf. It is notable as one of the early season defoliators, along with the winter moth. Egg hatch coincides with bud burst in the spring and the young larvae feed on the newly expanding leaves. Complete defoliation of trees can occur when population is high, but a second flush of leaves later in the season partially offsets the negative effect on trees. However, it is likely that severe defoliation does reduce the ability of trees to defend themselves from attack by other agents.

Adult moths are unmarked and uniformly green. The survey will involve the use of *pheromone traps*. For more information: **http://pest.ceris.purdue.edu/pest.php?code=ITBUEWA**

ROSY MOTH *Lymantria mathura*



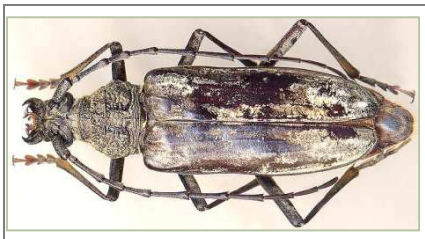

The pink or rosy gypsy moth is a major defoliator of deciduous trees, primarily in eastern Asia from India to the Russian Far East. It is related to the gypsy moth and considered to pose a very high risk to North American forests. Typical hosts are oak, pear, apple, cherry, and beech trees.

Outbreaks often occur over large areas (one outbreak in eastern Russia covered almost 495,000 acres) and populations can reach up to 1000 caterpillars per tree. Although the moth does not typically kill trees, it reduces overall health and vigor, which is typically followed by an outbreak of wood boring insects.

The rosy moth is regulated as a quarantine pest by Canada and USA. The survey will involve the use of *pheromone traps*.

For more information: **http://pest.ceris.purdue.edu/pest.php?code=ITAXQIA**

CITY LONGHORNED BEETLE *Aeolesthes sarta*



The city longhorned beetle (Aeolesthes sarta) is an insect pest of forest, ornamental, and fruit trees. It is native to central Asia, and continues to increase its range in many Asian countries. It is not known to occur in North America but it has a high potential for establishment here due to climate and host availability. It attacks both stressed and healthy deciduous trees of different ages and can eventually kill the tree.

Large emergence holes are found on trunks and large branches of infested trees. Boring debris occurs at the base of infested trees, and beetles are sometimes observed on infested trees. Dieback and tree mortality occurs as a result of heavy infestations. This beetle has similar habits and causes similar damage to the Asian longhorned beetle.

Adults are large, about 1½ inches long, with very long antennae and a silvery appearance. The survey will involve *visually* inspecting host trees for characteristic signs of infestation.

For more information: **http://pest.ceris.purdue.edu/pest.php?code=INALCWA**

ASIAN LONGHORNED BEETLE *Anoplophora glabripennis*

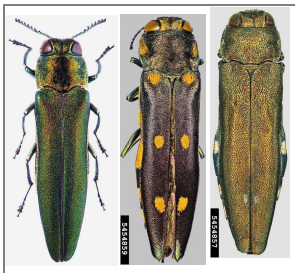
The Asian longhorned beetle (ALB) is a woodboring insect from Asia and has been discovered attacking trees in the United States. Tunneling by beetle larvae girdles tree stems and branches. Repeated attacks lead to dieback of the tree crown and, eventually, to the death of the tree. ALB probably traveled to the US inside solid packing material from China. It is not yet known to Maine, but has been found as close as New Hampshire.

The beetle prefers maple trees and other hardwoods, including birch, buckeye, elm, horsechestnut, and willow trees. The only effective means to eliminate ALB is to remove infested trees and destroy them by chipping or burning. To prevent further spread of the insect, quarantines are established to avoid transporting infested wood from the area. Early detection and rapid treatment response are crucial to successful eradication of ALB.

The survey will involve ***visually*** inspecting host trees for characteristic signs of infestation.

For more information, **www.maine.gov/alb**

EMERALD ASH BORER, GOLDSPOTTED OAK BORER, OAK SPLENDOUR BEETLE *Agrilus spp.*



Agrilus species are woodboring jewel beetles. There are over 3000 species of *Agrilus* worldwide. The three Agrilus species pictured, *Agrilus planipennis* (emerald ash borer), *Agrilus auroguttatus* (goldspotted oak borer), and *Agrilus biguttatus* (oak splendour beetle), are all exotic and are responsible for the death and destruction of millions of host trees. The emerald ash borer and the goldspotted oak borer have both been found in the U.S.

Adult metallic wood boring beetles are bullet-shaped, flat at the front of the head and sharply tapered at the ends of the wings and abdomen; most are slightly flattened, hard bodied beetles ranging in lengths from about ½ to 1¼ inch. At least part of the body, sometimes just the underside, is a metallic color; blue, green, black or coppery brown are common depending upon species. Adults are powerful fliers and many species are active by day.

Because of their small size, these beetles are not easily noticed. Looking for characteristic damage on the proper host trees aids in early detection. These three species can also be monitored with ***purple prism traps***.

For more information: **www.maine.gov/eab** (emerald ash borer), **http://pest.ceris.purdue.edu/pest.php?code=INAHBSA** (gold-spotted oak borer), **http://pest.ceris.purdue.edu/pest.php?code=INAHRPA** (oak splendour beetle)

EXOTIC SAWYER BEETLES *Monochamus spp.*

Sawyer beetles belong to the beetle family, Cerambycidae, or long-horned beetles. They colonize and feed in plants, generally trees and are often considered secondary infesters whose main damage is disfiguring wood by larval boring and tunneling. They often attack weakened or dying trees but some of the exotics will infest healthy trees.

Adult beetles are generally over 1-inch long, cylindrical, and black, brownish-black, or reddish brown, mottled with whitish or grayish pubescence. The thorax bears a prominent spine on each side. The larvae are elongate, cylindrical, and have large gnawing mandibles. It is often difficult to tell the species by the larval stage.

The two Monochamus species pictured, *Monochamus salutarius* (Sakhalin pine sawyer) and *Monochamus sutor* (small white marmorated longhorned beetle) have not been found in the U.S. They attack conifers, mainly fir, larch and spruce. Their habits and appearances are similar to native sawyer beetles. They are also known to vector nematodes that may be harmful to our native and ornamental conifers.

There is no easy early detection tool for these species. Host trees will be visually inspected for signs of infestation, and eyes will be on the lookout for adult beetles during emergence period (June-September).

Photo Credits:
Variegated Golden Tortrix: adult: Gyorgy Csoka, Hungary Forest Research Institute, Bugwood.org. Larva: Milan Zubrik, Forest Research Institute - Slovakia, Bugwood.
Green Oak Tortix: adult: Gyorgy Csoka, Hungary Forest Research Institute, Bugwood.org . Larva: Petr Kapitola, Central Institute for Supervising and Testing in Agriculture, Bugwood.org
Rosy Moth: larva: David Mohn, Critters Page (Creatures Great and Small), Bugwood.org. Adult: David Mohn, Critters Page (Creatures Great and Small), Bugwood.org
City Longhorned beetle: Ohio Dept of Agriculture.
Asian Longhorned Beetle: Donald Duerr, USDA Forest Service, Bugwood.org
EAB: Leah Bauer, USDA Forest Service Northern Research Station, Bugwood.org
Oak Splendor Beetle: Steven Valley, Oregon Department of Agriculture, Bugwood.org
Goldspotted Oak Borer: Steven Valley, Oregon Department of Agriculture, Bugwood.org
White Marmorated Longhorned Beetle: Steven Valley, Oregon Department of Agriculture, Bugwood.org
Sakhalin Sawyer Beetle: Maja Jurc, University of Ljubljana, Slovenia, Bugwood.org